EX PARTE OR LATE FILED

DOCKET FILE COPY ORIGINAL

GTE Service Corporation
1850 M Street, N.W., Suite 1200
Washington, D.C. 20036
(202) 463-5292

Carol L. Bjelland
Director
Regulatory Matters

July 7, 1997

RECEIVED

JUL - 7 1997

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N. W.
Washington, D. C. 20554

RE: Ex Parte: CC Docket No. 94-102

Dear Mr. Caton:

On behalf of GTE Service Corporation, transmitted herewith, in accordance with the Commission's rules concerning ex parte communications, are copies of an ex parte presentation submitted to Mr. John Cimko, Chief of the Wireless Bureau's Policy Division.

Questions concerning this matter should be directed to the undersigned.

Sincerely,

Carol L. Bjelland

Attachment

CC: N. Boocker

No. of Copies rec'd 0+1
List ABCDE

GTE Service Corporation
1850 M Street N.W., Suite 1200
Washington, D.C. 20036
(202) 463-5292

Carol L. Bjelland
Director
Regulatory Matters

July 7, 1997

Mr. John Cimko
Chief-Policy Division
Wireless Telecommunications Bureau
Federal Communications Commission
2025 M Street, N. W.
Washington, D. C. 20554

RE: Ex Parte: CC Docket No. 94-102

Dear Mr. Cimko:

In conjunction with ex parte discussions with PCIA and several other wireless service and equipment companies, you requested that responses be provided, in writing, to a list of questions concerning the provision of 911 emergency calling services by wireless service providers. Attached to this letter you will find GTE's responses to this list of questions.

We hope this information will be useful to you in consideration of the various issues in the above-referenced proceeding. Should you have any questions concerning the information conveyed in GTE's response, please contact me at your earliest convenience.

A copy of this letter, and the attached material, will be filed with the Office of the Secretary in accordance with the Commission's rules concerning ex parte communications.

Sincerely,

Carol L. Bjelland

Attachment

Answers To Questions on E911 Implementation

Prepared by
GTE Wireless, Atlanta, GA

July 7, 1997

(Additions are indicated as bold text, deletions are also indicated)

1. What are the relevant technologies, services, and switch vendors, *e.g.*:

Technology	Service	Vendor
AMPS	Analog Cellular	Lucent, Motorola, **Nortel**
CDMA	Digital Cellular, PCS	Lucent, Motorola

2. For each of these technologies, what codes are programmed into the handset and transmitted to the cell site or switch -- ***[GTE assumption: The codes listed are those that enable a switch to recognize a handset.]***

   By **handset** manufacturer: ***Default MIN (Eg:***
   Motorola: 111 111 0111
   Nokia: 111 111 1111
   Oki: 111 111 0111
   etc..)

   By **retail center:** ***A NANP-compliant 10-digit MIN***

   By carrier: ***A NANP-compliant 10-digit MIN***

   Other

3. What is the source of these codes --
   North American Numbering Plan: ***MIN is assigned from a database of available number blocks***

   Manufacturer's serial number: ***ESN is built into the phones***

   Retail Center code: ***Not known***

Other?: ***System ID (SID) is programmed into the phone during NAM programming. Authenticatable phones get programmed with a A-Key (6-26 digits long) by the manufacturers and the carrier.***

4. Which of these codes **or combination of codes** identifies the handset **and subscriber**?
ESN and MIN together identify the handset and the subscriber to the system. A-Key and Shared Secret Data (SSD) (authenticatable phones in authentication-enabled markets) help to uniquely identify the handset to the system.

5. Which of these codes **or combination of codes** can be used for callback by a PSAP?
[GTE assumption: PSAPs will have upgraded their equipment to receive the information and telcos can transmit the information].

Directly, as in the case of a NANP code: ***A NANP-compliant MIN is an absolute minimum requirement for callback. Additionally, the mobile must have service initialized by the home carrier (i.e., has a valid MIN programmed), pass global challenge if authenticatable in an authentication-enabled market, and not have call delivery turned off.***

Indirectly through database lookup: ***In the case of callback to roamers, it is possible for the PSAPs to use a "roam access Port" number first and wait for the tone to enter the actual 10-digit MIN of the original caller. In this case, the actual Callback number that will be input may have to be pulled from the ALI database.***

6. Describe the validation process for each technology. Is there more than one type of validation, e.g., for service initialization, credit worthiness, etc.?
Irrespective of the technology, the general validation sequence is as follows:
1. Mobile's SID is matched to the serving system's SID to distinguish Homer Vs Visitor
2. Global Challenge/Unique Challenge performed using the transmitted MIN from the Mobile as the key (only for authenticatation-capable phones in authentication-enabled markets)
3. If authentication fails, and if other fraud prevention methods are being employed (SPINI/SPINA/FraudForce, etc..), these tools will come into play in prompting the user for PIN entry.
4. Passing Fraud checks, ESN and MIN together are used to determine if the user has service enabled.
5. If the user has service enabled, credit worthiness checks are performed

7. Can the wireless switch **pass** calls to PSAPs based on whether one or more of these codes is initiated in the handset? Which ones? Does this answer differ because, e.g. of the model of the switch, software, or other factors?
911 calls bypass all of the above validation checks, today. The switch can not selectively allow some tests to be performed. Either all validation checks are performed or none.

8. It has been suggested to us that wireless switch technologies generally allow only two choices in the handling of 911 calls -- either all calls are transmitted or only calls that are **successfully validated** can be transmitted. This is inconsistent with the understanding of the Commission in the Order which required that code identified calls be transmitted.

   Do you consider it to be impossible, at the present time, for wireless switches to route all 911 calls from handsets that are code-identified to PSAPs? For which technologies?
   1. In our Lucent switch markets, Lucent has indicated to us their intent/plan to have a software enhancement by 4Q97 to support PSAP choice on receiving calls from non-MIN Mobiles. While we do not have any further details on how the "non-MIN" mobiles would be identified, it is our assumption that the Lucent software will at least validate if the transmitted MIN is NANP-compliant.
   2. NORTEL has indicated to us that the earliest time frame they will be able to provide this capability would be the end of 1998. Currently, NORTEL does not even plan to offer the capability according to their product releases.
   3. We do not have any specific details from Motorola in this area.

   In the all calls scenario, can you perform a subsequent validation once a call has been passed to the PSAP?
   No.

   Is it possible to modify switch software to route code-identified calls?
   Refer to previous response discussing manufacturer software enhancements under Q8.

   In a scenario where the wireless carrier is attempting to validate calls (as opposed to sending all calls and bypassing the validation process), is it possible to disregard the result of a validation attempt for E911 calls? What would you gain by doing this as opposed to just doing all calls?
   Today, based upon the dialed digits, the switch determines if the caller is trying to reach emergency services, and the validation checks are bypassed right then. So, there is no need to validate, determine if the validation has failed, check if the call is to 911, and then ignore the validation results.

9. It has been suggested that if only service initialized calls are routed to PSAPs, the calls must be validated for some technologies, *e.g.*, AMPS and CDMA.

Is this correct?
Yes.

Where calls must be validated, what does this mean? For example, if a caller is a roamer without a roaming agreement, would the validation process delay the call? Would the caller be required to provide a credit card number or other information?
To begin, roamers are validated as soon as they enter the non-home area, much before they would even originate a call. Even if they try to originate a call before the serving system has had a chance to validate the subscriber with the home switch, the serving system can instantly determine if it has a roaming arrangement with the subscriber's home switch without conducting a dialogue with the home switch. So, a validation process will not even be necessary if there is no roaming relationship with the home carrier. All calls other than 911 and 611 (Customer service) will necessitate the call to be routed to a customer care person to obtain Credit card information. Today, 911 calls bypass validation checks and thus are routed without any regard for roaming relationships. From a Phase I's callback requirement, however, roamers without roaming relationships will pose difficulties, as the serving switch can not determine call delivery characteristics of the caller by querying the home carrier. The serving switch has no way of distinguishing that the callback is actually originated by a PSAP, and as a result can not offer any special treatment to the mobile.

Can some or all switches be set to validate, but ignore the result in the case of 911 calls (in order to avoid delay)?
The decision to "route" a call with or without validation precedes any VALIDATION. "Delay" occurs if Validation is required without any choice.

10. If a switch is set to transmit all 911 calls to PSAPs, can it also transmit callback numbers for valid customers under the following scenarios:

- 7 digit ANI
Uncertain (most often NO).

- 10 digit ANI
Yes.

- 10 digit ANI and 10 digit pseudo ANI
Yes.

11. Can the system selectively route calls differently to different PSAPs, e.g., all calls to some PSAPs and only validated calls to others? Does this capability vary depending on the **network capability, radio capability, and/or** model of switch? The software?
See answer to Q8.

12. Do you believe more time will be needed to successfully implement --

Basic 911 requirements (currently scheduled for October 1, 1997)
No.

E911 Phase I (currently scheduled for April 1, 1998)
Yes (Some parts can be implemented without additional time). **FCC needs to spell out immunity to Wireless carriers as "Directing all/selected Calls to PSAPs" poses challenges based upon inherent radio propagation aspects and dependence upon the infrastructure network providers' capabilities.**

If so, how much time?
Implementation time for the subject FCC-licensed CMRS providers is largely dependent on the specific requirements ordered by the FCC and the corresponding ability of the public safety community to adopt, incorporate, and implement such requirements. Given that such significant factors are uncertain at this time, it is difficult accurately to assess how much time will ultimately be needed.

13. In the Order, the Commission recognized that when non-code identified calls are transmitted to a PSAP, the PSAP may not receive ANI information allowing call back for such calls. It has recently been suggested that if a carrier transmits all 911 calls, including those not code identified, the carrier may be unable to transmit ANI for other calls. In other words, transmission of non-code identified calls might actually impair PSAP callback or other capabilities for service-initialized calls from subscribers or roamers.

Are there any cases where this would occur?
This is subject to the human decision factors on the part of the PSAPs, as well as the software capabilities of the PSAP equipment. From a wireless switch perspective, whatever ANI was made available will be transmitted to the PSAP.

If so, under what circumstances, e.g., which switches or vintages of software?
NA.

What causes this effect?
NA.

What remedies would be required to correct this problem and provide callback capability for all service-initialized callers, including roamers without automatic roaming?
See answer to Q9.

New question:

14. What if the Commission were to establish a default that required the wireless industry to pass X type of calls unless all PSAPs served by a certain switch agreed that they would rather have Y type of calls, in which case the wireless carrier would have to accommodate the PSAPs? Is this technically feasible?
This requires that the switch software is able effectively to distinguish "X" type of calls versus "Y" type of calls. Unless the exact nomenclature of the "X" and "Y" are spelled out, it is difficult to provide a satisfactory answer.